

Attorney's Docket No. 35718/241887 (5718-128)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Zheng *et al.*
Appl. No.: 10/024,806 Group Art Unit: 1649
Filed: December 19, 2001 Examiner: Not assigned
For: OAR POLYNUCLEOTIDES, POLYPEPTIDES AND THEIR USE
IN PHA PRODUCTION IN PLANTS

July 10, 2002

Commissioner for Patents
Washington, DC 20231

**INFORMATION DISCLOSURE STATEMENT
CITATION UNDER 37 C.F.R. § 1.97**

Sir:

Attached is a list of documents on form PTO-1449 together with a copy of each identified document. It is requested that the Examiner consider these documents and officially make them of record in accordance with the provisions of 37 C.F.R. § 1.97 and Section 609 of the MPEP. By submitting the listed documents, Applicant in no way makes any admission as to the prior art status of the listed documents, but is instead submitting the listed documents for the sake of full disclosure.

Respectfully submitted,

W. Murray Spruill
Registration No. 32,943

<p>Customer Nos. 29122 and 00826 ALSTON & BIRD LLP Bank of America Plaza 101 South Tryon Street, Suite 4000 Charlotte, NC 28280-4000 Tel Raleigh Office (919) 862-2200 Fax Raleigh Office (919) 862-2260</p>	<p>CERTIFICATE OF MAILING</p> <p>I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner For Patents, Washington, DC 20231, on July 10, 2002.</p> <p>Marilyn Muñoz</p>
--	--

1649
45
8-5-02
p. 2.
RECEIVED
JUL 18 2002
TECH CENTER 1600/2900

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

Application Number	10/024,806
Filing Date	December 19, 2001
First Named Inventor	Zheng
Group Art Unit	1649
Examiner Name	Not Assigned
Attorney Docket Number	35718/241887 (5718-128)

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document Number Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages of Relevant Figures Appear
	1	US-5,245,023	09-14-1993	Peoples <i>et al.</i>	
	2	US-5,650,555	07-22-1997	Somerville <i>et al.</i>	
	3	US-6,143,952	11-07-2000	Srienc <i>et al.</i>	

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document Country Code - Number Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
	4	WO-98/00557 A2 ✓	01-08-1998	Monsanto Company		
	5	WO-99/00505 A1 ✓	01-07-1999	University of Missouri		
	6	WO-99/35278 A1 ✓	07-15-1999	Monsanto Company		
	7	WO-99/45122 A1 ✓	09-10-1999	Metabolix, Inc.		
	8	WO-00/55328 A1 ✓	09-21-2000	Universite Laval		

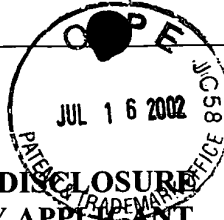
OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	9	CAUGHEY, I., and R. KEKWICK, "The Characteristics of Some Components of the Fatty Acid Synthetase System in the Plastids from the Mesocarp of Avocado (<i>Persea americana</i>) Fruit," <i>Eur. J. Biochem.</i> , 1982, pp. 553-561, Vol. 123, FEBS.	
	10 ✓	FUKUI, T., <i>et al.</i> , "Expression and Characterization of (R)-Specific Enoyl Coenzyme A Hydratase Involved in Polyhydroxyalkanoate Biosynthesis by <i>Aeromonas caviae</i> ," <i>Journal of Bacteriology</i> , February 1998, pp. 667-673, Vol. 180(3), American Society for Microbiology, USA.	
	11	HASHIMOTO, T., "Peroxisomal β -Oxidation Enzymes," <i>Neurochemical Research</i> , 1999, pp. 551-563, Vol. 24(4), Plenum Publishing Corporation.	
	12	HILTUNEN, J., <i>et al.</i> , "Peroxisomal Multifunctional β -Oxidation Protein of <i>Saccharomyces-cerevisiae</i> : Molecular Analysis of the Fox2 Gene and Gene Product," <i>The Journal of Biological Chemistry</i> , April 1992, pp. 6646-6653, Vol. 267(10), The American Society for Biochemistry and Molecular Biology, Inc., USA.	
	13	JIANG, L., <i>et al.</i> , "Purification and Properties of Rat D-3 Hydroxyacyl-CoA Dehydratase: D-3-Hydroxyacyl-CoA Dehydratase/D-3-Hydroxyacyl-CoA Dehydrogenase Bifunctional Protein," <i>J. Biochem</i> , September 1996, pp. 633-641, Vol. 120(3), the Japanese Biochemical Society, Japan.	

Examiner Signature	Date Considered
--------------------	-----------------

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

RECEIVED
 JUL 18 2002
 TECH CENTER 1600/2900



**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2 of 3

Complete if Known

Application Number 10/024,806
Filing Date December 19, 2001
First Named Inventor Zheng
Group Art Unit 1649
Examiner Name Not Assigned
Attorney Docket Number 35718/241887 (5718-128)

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	14 ✓	KATO, M., et al., "Production of a Novel Copolyester of 3-hydroxybutyric Acid and Medium-Chain-Length 3-Hydroxyalkanoic Acids by <i>Pseudomonas</i> sp. 61-3 from Sugars," <i>Appl. Microbiol. Biotechnol.</i> , 1996, pp. 363-370, Vol. 45, Springer-Verlag.	
	15 •	KLEIN, B., et al., "Isolation and Characterization of cDNA from <i>Cuphea lanceolata</i> Encoding a β -Ketoacyl-ACP Reductase," <i>Mol. Gen. Genet.</i> , 1992, pp. 122-128, Vol. 233	
	16 ✓	LEE, E., et al., "Biosynthesis of Copolyesters Consisting of 3-hydroxybutyric Acid and Medium-Chain-Length 3-Hydroxyalkanoic Acids from 1,3-Butanediol or from 3-Hydroxybutyrate by <i>Pseudomonas</i> sp. A33," <i>Appl. Microbiol. Biotechnol.</i> , 1995, pp. 901-909, Vol. 42, Springer-Verlag.	
	17 ✓	LIEBERGESELL, M., et al., "Analysis of Polyhydroxyalkanoic Acid-Biosynthesis Genes of Anoxygenic Phototrophic Bacteria Reveals Synthesis of a Polyester Exhibiting an Unusual Composition," <i>Appl. Microbiol. Biotechnol.</i> , 1993, pp. 292-300, Vol. 40, Springer-Verlag.	
	18 ✓	MADISON, L. and B. Huisman, "Metabolic Engineering of Poly(3-Hydroxyalkanoates): From DNA to Plastic," <i>Microbiology and Molecular Biology Reviews</i> , March 1999, pp. 21-53, Vol. 63(1), American Society for Microbiology, USA.	
	19 ✓	MATSUSAKI, H., et al., "Cloning and Molecular Analysis of the Poly(3-Hydroxybutyrate) and Poly(3-Hydroxybutyrate-co-3-Hydroxyalkanoate) Biosynthesis Genes in <i>Pseudomonas</i> sp. Strain 61-3," <i>Journal of Bacteriology</i> , December 1998, pp. 6459-6467, Vol. 180(24), American Society for Microbiology, USA.	
	20 ✓	MITTENDORF, V., et al., "Synthesis of Medium-Chain-Length Polyhydroxyalkanoates in <i>Arabidopsis Thaliana</i> Using Intermediates of Peroxisomal Fatty Acid β -Oxidation," <i>Proc. Natl. Acad. Sci. USA</i> , November 1998, pp. 13397-13402, Vol. 95, The National Academy of Sciences.	
	21 ✓	NISHIYAMA, M., et al., "Alteration of Coenzyme Specificity of Malate Dehydrogenase from <i>Thermus flavus</i> by Site-directed Mutagenesis," <i>The Journal of Biological Chemistry</i> , March 1993, pp. 4656-4660, Vol. 268(7), The American Society for Biochemistry and Molecular Biology, Inc., USA.	
	22 ✓	POIRIER, Y., "Production of New Polymeric Compounds in Plants," <i>Current Opinion in Biotechnology</i> , April 1999, pp. 181-185, Vol. 10(2), Elsevier Science Ltd.	
	23 ✓	SOLAIMAN, D., "PCR Cloning of <i>Pseudomonas resinovorans</i> Polyhydroxyalkanoate Biosynthesis Genes and Expression in <i>Escherichia coli</i> ," <i>Biotechnology Letters</i> , 2000, pp. 789-794, Vol. 22, Kluwer Academic Publishers, Netherlands.	
	24 ✓	SHIMAKATA, T., and P. STUMPF, "Purification and Characterizations of β -Ketoacyl-[Acyl-Carrier-Protein] Reductase, β -Hydroxyacyl-[Acyl-Carrier-Protein] Dehydrase, and Enoyl-[Acyl-Carrier-Protein] Reductase from <i>Spinacia oleracea</i> Leaves," <i>Archives of Biochemistry and Biophysics</i> , October 1982, pp. 77-91, Vol. 218(1), Academic Press, Inc.	
	25	TAGUCHI, K., et al., "Co-Expression of 3-Ketoacyl-ACP Reductase and Polyhydroxyalkanoate Synthase Genes Induces PHA Production in <i>Escherichia coli</i> HB101 Strain," <i>FEMS Microbiology Letters</i> 1999, pp. 183-190, Vol. 176, Elsevier Science B.V.	
	26 ✓	TIMM, A., and A. STEINBÜCHEL, "Cloning and Molecular Analysis of the Poly(3-Hydroxyalkanoic Acid) Gene Locus of <i>Pseudomonas aeruginosa</i> PAO1," <i>Eur. J. Biochem.</i> , 1992, pp. 15-30, Vol. 209, FEBS.	
	27	WILLIAMS, M., et al., "Production of a Polyhydroxyalkanoate Biopolymer in Insect Cells with a Modified Eucaryotic Fatty Acid Synthase," <i>Applied and Environmental Microbiology</i> , July 1996, pp. 2540-2546, Vol. 62(7), American Society for Microbiology, USA.	

DISCLOSURE
BY APPLICANT

	Complete if Known
Application Number	10/024,806
Filing Date	December 19, 2001
First Named Inventor	Zheng
Group Art Unit	1649
Examiner Name	Not Assigned
Attorney Docket Number	35718/241887 (5718-128)

Sheet	3	of	3
-------	---	----	---

Sheet	3	of	3
-------	---	----	---

Application Number	10/024,806
Filing Date	December 19, 2001
First Named Inventor	Zheng
Group Art Unit	1649
Examiner Name	Not Assigned
Attorney Docket Number	35718/241887 (5718-128)

RECEIVED
JUL 18 2002
TECH CENTER 1600/290

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.